REMARKS

The applicant appreciates the Examiner's thorough examination of the application, including the Examiner's position that applicant's previous arguments have been fully considered but are moot in view of new grounds of rejection, and requests reexamination and reconsideration of the application in view of the preceding amendments and the following remarks.

The Examiner rejects claims 22-43, 44-46, and 50-71 under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 4,078,867 to *Ronden* in view of U.S. Pat. No. 1,971,500 to *Palmer* in view of U.S. Pat. No. 6,016,848 to *Egres, Jr.* The Examiner also rejects claim 47 under §103(a) as being unpatentable over *Ronden* in view of *Palmer* in view of *Egres, Jr.* and further in view of U.S. Pat. No. 4,683,610 to *Richards et al.* The Examiner also rejects claims 48-49 under §103(a) as being unpatentable over *Ronden* in view of *Palmer* in view of *Egres, Jr.* and further in view of U.S. Pat. No. 5,598,598 to *Sorenson.*

The applicant's claimed invention results from the realization that a lighter and more dimensionally stable, foldable member can be constructed by cutting and forming longitudinal slots in a tube around the perimeter thereof at a location where the member is designed to bend, thereby forming separated, longitudinal strips of material at that location. These longitudinal strips of material easily buckle, allowing the member to fold without adding a separate hinge which would add weight to the member and would also result in dimensional instability. See e.g. the applicant's specification at page 6, line 22 – page 7, line 4.

Conversely, the hinge area is strong against bending and torque since the hinge area "can only be actuated by intentional localized buckling force applied directly to the hinge areas". See

e.g. the applicant's specification at page 10, lines 9-10.

The applicant has amended claim 1 to recite these features to clarify the unique structural and functional properties of the claimed invention.

Claim 1 as amended recites a foldable member which includes at least a first tube made of layers of material. There is at least one predetermined hinge area along the length of the tube. A plurality of opposing elongated slots at the predetermined hinge area form separated longitudinal strips of tube material between the slots. *The tube is configured to fold only when the longitudinal strips of material are subjected to localized buckling forces.* As one skilled in the art would understand and as discussed in the applicant's specification, such a structure is strong under compression, and is capable of – and indeed is typically configured to – support loads. See e.g. the applicant's specification and figures.

In sharp contrast to the applicant's claimed invention, neither *Ronden*, *Palmer*, *Egres, Jr.* nor their combination teach the applicant's claimed structure or the resulting functionality.

The Examiner cites *Ronden* as allegedly disclosing a foldable member comprising at least a first tube. The traffic marker tube as taught by *Ronden* will fold when subjected to any force at any point, specifically the force of an automobile which is not a localized buckling force as claimed. Moreover, the traffic marker tube does not include longitudinal strips of materials at all, much less which fold only when subjected to localized buckling forces. *Palmer* discloses a shield for a hose, and also does not disclose the applicant's claimed elements. The applicant submits that the remaining cited references are even less pertinent to the applicant's claimed invention and do not teach the applicant's claimed elements. All of the references are discussed further below.

Moreover, one skilled in the art would recognize that a closed wall shape "of

substantially continuously curviform cross-transverse cross-section" as taught by *Ronden* would not maintain its structural integrity when folded, but instead would yield at local points around the perimeter, altering the tube structure at those yield points. This is not a concern of *Ronden*, however, because *Ronden* simply teaches a homogeneous tubular traffic marker post. When run over by a vehicle, the marker post is configured to return approximately to its original upright position promptly after being traversed by the vehicle, but it is clear that the strength and precise return position of that tube is not critical. If the *Ronden* tube were a load bearing structural member, its strength, stiffness, and positional accuracy would be substantially reduced by the local perimeter yielding.

The Examiner admits that *Ronden* fails to disclose "the tube being made of a [sic] layers of material, at least one predetermined hinge area along the length of the first tube, a plurality of opposing elongated slots in the tube through the layers of material forming separated longitudinal strips of tube material between the slots which fold when subjected to localized buckling forces".

It is such additional elements however, as claimed by the applicant, that contribute to – among other things – maintaining structural integrity. *Ronden* would have no motivation to utilize such additional elements because, as noted above, *Ronden* is not at all concerned with the consequences of local material yielding.

The secondary reference *Palmer* fails to fill the void in the teachings of *Ronden* in any event. The Examiner alleges *Palmer* discloses a tube having at least one predetermined hinge area along the length, and a plurality of opposing elongated slots in the tube through the material forming separated longitudinal strips of tube material between the slots which fold when subjected to localized buckling forces.

Palmer neither teaches or suggests a hinge area, however, much less one which includes a hinge area including longitudinal strips of material configured to fold at the hinge area only when the longitudinal strips of material are subjected to localized buckling forces.

Instead, *Palmer* teaches a shield for a hose, and *Palmer*'s slots 4b are for improving grip. Additionally, as discussed above in the context of *Ronden*, *Palmer* also is not concerned with and does not teach yielding, or its consequences, or any way to alleviate it.

Moreover, the applicant's claimed structure (whether the claimed foldable member or collapsible structure including a foldable member) – having a hinge area which is strong against bending and torque since the hinge area can only be actuated by intentional localized buckling force applied directly to the hinge areas – can and typically does act as a load bearing member supporting a load, where limited folding areas, as well as yielding, are considerations. The cited references do not teach this functionality nor the applicant's claimed structure. Nor are those skilled in the art of traffic markers (e.g. *Ronden*), or hose connectors (e.g. *Palmer*) or chemical makeup of tubes (e.g. *Egres, Jr.*) or handle extensions (e.g. *Richards et al.* and *Sorenson*) concerned with or teach the applicant's claimed structure, functionality, or uses.

Accordingly, neither *Ronden* nor *Palmer* nor any of the cited references disclose – among other things – a tube made of layers of material configured to fold at a hinge area only when longitudinal strips of material in that area are subjected to localized buckling forces, as claimed by the applicant.

Moreover, the applicant notes that to reject the applicant's claims, the Examiner has found it necessary to combine a reference in a *first* field of endeavor which teaches a traffic marker post (*Ronden*), with a reference in a *second* field of endeavor which teaches a hose connector (*Palmer*), with references in *other* fields of endeavor like handle extensions, to reject

the applicant's claimed invention from a *completely unrelated* field of endeavor, namely a foldable member such as for a collapsible support structure.

Accordingly, the applicant submits that the applicant's claimed invention is clearly not obvious over *Ronden* and *Palmer*, or the other cited references.

The cited reference *Egres Jr.* does not add to *Ronden* and *Palmer* in order to support the rejection of applicant's claims. The Examiner cites *Egres, Jr.* as disclosing a tube made of layers of material to withstand repeated flexing due to bending.

Egres, Jr. also fails to disclose predetermined hinge area(s), or slots in the tubes, or opposing longitudinal strips of layers of tube material, or a tube made of layers of material configured to fold at a hinge area only when longitudinal strips of material in that area are subjected to localized buckling forces. Thus, *Egres, Jr.* fails to disclose elements claimed by the applicant which *Ronden* and *Palmer* also fail to disclose as discussed above.

Independent claims 30 includes elements also recited in independent claim 22 as discussed above, and other element(s). Independent claims 50 and 67 claim a collapsible support structure, and each also include elements recited in independent claim 22. Thus, the independent claims are in condition for allowance. Claims 23-29, 31-49 and 51 depend directly or indirectly from independent claims 22, 30 and 50, respectively. Accordingly, claims 23-51 are also in condition for allowance for at least the same reasons discussed above. Claims 52-66 and 68-71 have been cancelled.

The many distinctions between the applicant's claimed invention and *Richards et al.* have been discussed in prior Responses, and in any event, dependent claim 47 ultimately depends from independent claim 30. Also, dependent claims 48-49 also ultimately depend from claim 30 and are also allowable for at least the foregoing reasons, in spite of *Sorenson*, which teaches a

paint applicator with an extensible handle.

In summary, the applicant respectfully submits that the Examiner has failed to present a *prima facie* case of obviousness. The cited art, even if improperly combined under 35 U.S.C. §103(a), does not show the applicant's claimed structure.

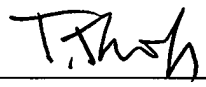
CONCLUSION

Each of Examiner's rejections has been addressed or traversed.

Accordingly, it is respectfully submitted that pending claims 22-51 and 67 are in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts at (781) 890-5678.

Respectfully submitted,



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